Geographic Service Area

AT&T Wireless has embarked upon a significant initiative to bring 4G wireless coverage to all of its wireless communications facilities across the nation. The attached RF Coverage Maps depict the existing coverage situation around the project site, with maps depicting 1) coverage without the proposed facility, 2) overall network coverage with the proposed facility, and 3) coverage with the proposed facility alone, as well as maps for lower heights to help illustrate why the height exception is needed up to 55' feet. These maps display a stark contrast in coverage, since existing conditions lack sufficient AT&T wireless coverage due to the inadequacy of the surrounding sites at covering the targeted service area, and with the significant topographical variations in the project area.

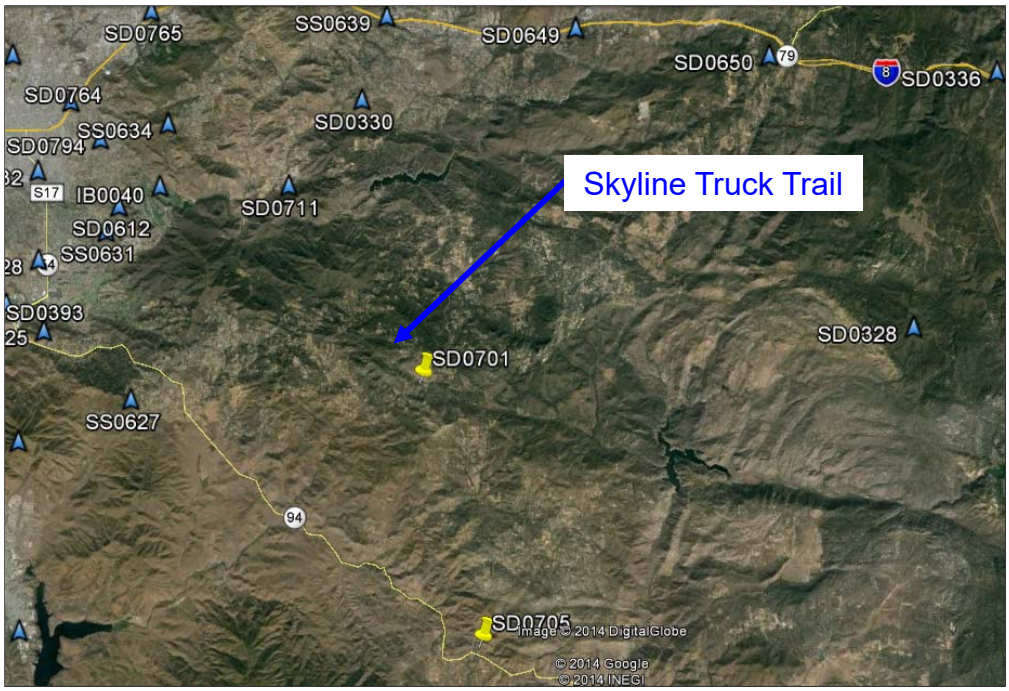
One critical caveat in reviewing the attached coverage plots is that coverage is only one aspect of the project. Carriers have two essential goals in network rollout: coverage and capacity. Coverage maps will only show the quality of signal over a distance. Will a cell phone have reception? How good is the signal? Are dropped calls likely? The answers to these questions are represented in a coverage map. Tantamount to coverage is the other wireless goal: capacity. Unless AT&T installs the proposed facility, customers will suffer from slow and frustrating data coverage in the areas where they get coverage. Customers are now paying for 4G data coverage on their phones, and cell towers are increasingly "maxed out" with the bombardment of data usage at a given tower. Therefore, you may look at the attached coverage maps and think, "Huh! It's very green. Why do they need to fuss with this site if there's already good coverage?" That's only half of the battle.

The installation of this newer, faster network will greatly enhance personal, business and emergency communications for this area of rural San Diego County. Semi-rural communities of the County, like the Jamul area, are especially prone to isolation. Communications are lost if phone lines are burned, and commuters face danger if there is an accident or car trouble along the highway. The communications that a facility like this provides are vital to public safety. It should be noted that *public health, safety and welfare* is a key finding for a Major Use Permit. Regarding the attached RF Coverage Maps, note the following color coding:

- Gray: No coverage
- Red: Little to no coverage (connection cannot be maintained)
- Yellow: Weak coverage (connection may not be able to be maintained)
- Teal: Moderate coverage (insecure connection)
- Green: Good coverage

What is not readily evident in the maps are the significant spans of rolling hills and winding roads that make the purveyance of wireless coverage exceedingly difficult. In rural and semi-rural communities such as these, the service area provided by any single wireless facility becomes smaller and smaller because the antennas are not able to "see" over and around hills, let alone provide the data capacity and GPS services that users need. When looking to build a new wireless facility within a given search ring in these areas, or upgrade an older existing facility, AT&T of course seeks to gain as much height as possible in order to maximize coverage and capacity in the interests of its customers. For the subject facility located off Lyons Valley Road, having good, unobstructed visibility in all directions maximizes the service provided by this facility to the increased benefit of the community and reduces the need to construct additional facilities in order to meet the targeted coverage objective.

The proposed communications facility at 17348 Lyons Valley Road is intended to service a gap in coverage in the Lyons Valley area of Jamul. As evidenced in the zoning drawings, coverage from the panel antennas is aimed in three different directions (called antenna "sectors"): 0 degrees (north) across Lyons Valley Road as much toward Skyline Truck Trail as possible, 90 degrees (east) across Lyons Peak Road, and 240 degrees (southwest) also across Lyons Valley Road. The RF coverage objective is therefore north toward Skyline Truck Trail, and east and southwest toward Lyons Valley Road; for all three sectors, the goal is not just to provide mobile coverage to the roadways but also to the neighboring residences all around them. This objective has to be flexible depending on what is available; RF engineer essentially does an analysis based on what is available, knowing that as we move through winding roads they may have to compromise on certain objectives (such as visibility to a certain stretch of one road or a certain set of houses) while gaining additional coverage to a different area of road or homes. These directions target the entire coverage gap evidenced in the coverage maps. In the map below, AT&T site SD0711 is located 5.5 miles away; site SD0330 in Alpine is located 6.5 miles away; SD0705 in Dulzura is located 6.4 miles away; and site SD0328 Los Pinos is located 11.4 miles away. In addition to the distance apart creating a service gap, topographical variations, including valleys lower in elevation and winding roads, cause significant loss in coverage. These gaps, coupled with the capacity demands described above, make the installation of a new facility at the proposed location crucial to AT&T's coverage needs.



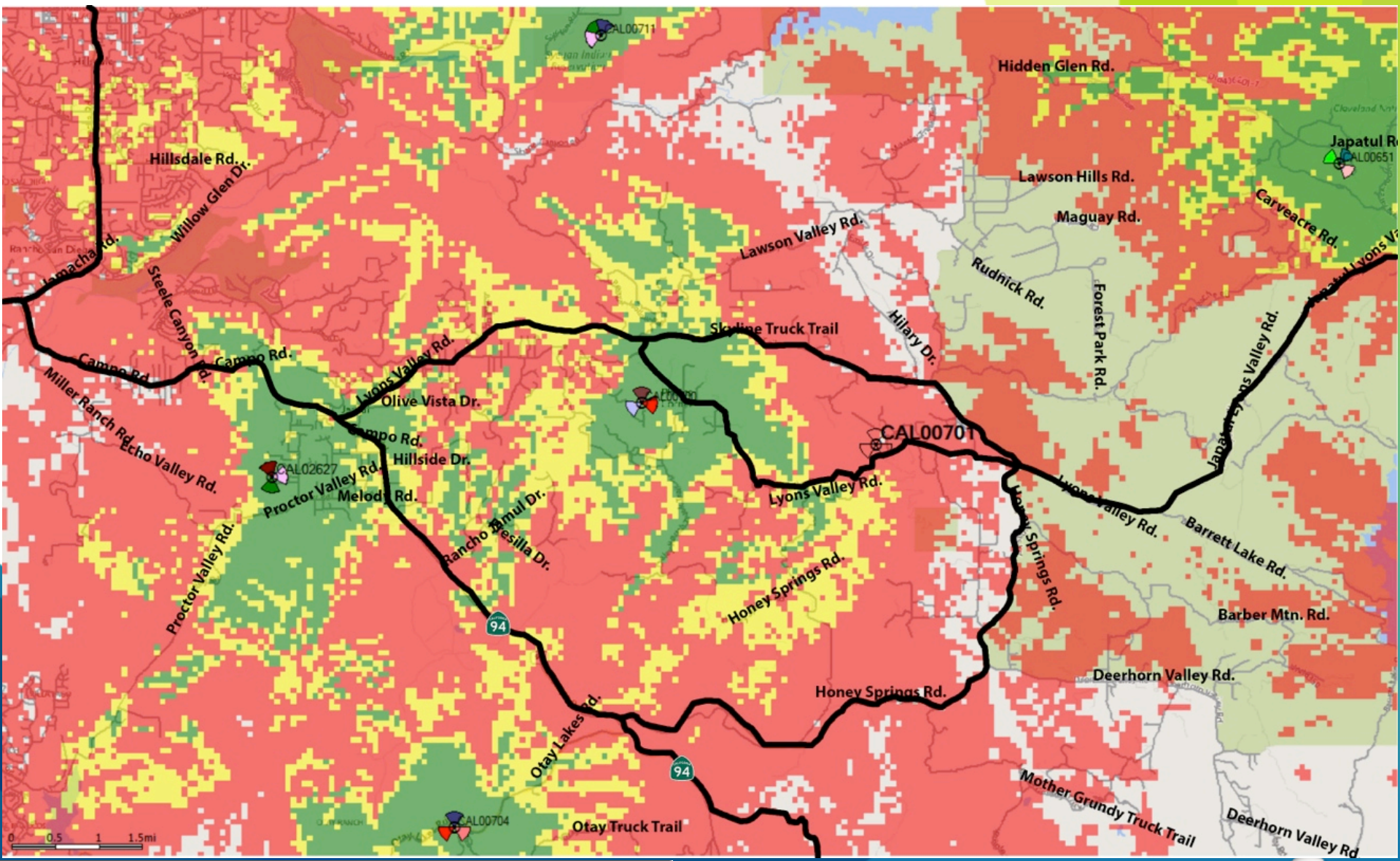
Please note: staff referenced in the scoping letter dated 07/08/14 (item #13-8) that site # SD0700 is referenced in the coverage maps but not mentioned in this document. The reason is that site SD0700 is not constructed. An application for a wireless facility for that site was submitted to the County in July 2012 (MUP12-014 Buckel Wireless). AT&T is in the process of pursuing an alternative candidate for that project. AT&T RF engineering must factor that site into the coverage maps to evaluate planned network coverage for the search ring in an ideal scenario. If AT&T is unable to find a solution for the neighboring search ring, SD0700, then network coverage will be less. The coverage maps included in the GSA for this subject application therefore represent a best-case scenario that includes future site.

Winding roads and significant changes in elevation necessitate a new cell site as proposed at 17348 Lyons Valley Road. Due to the existing conditions on this property with landscaping and the wide coverage objective for this search ring, it is crucial that that the County grant AT&T the 20' exception to the height limitation in order to meet its coverage objectives. The photo simulations further depict that this exception is appropriate for the project, since it is designed to blend in with the community character. The height of mountain and the distance from any neighboring views closer to Lyons Valley Road serve as an excellent backdrop to attenuate the height. When AT&T submitted this project to PDS in 2014 (PDS2014-MUP-14-027), there was an existing garage structure at the top of the driveway on this property. This garage has since been removed. As a result, the concrete pad on which the garage stood since the 1930's is all that remains, and it is available for AT&T to utilize for its proposed facility. As a result, AT&T no longer proposes two tower structures; the monobush is no longer needed, because all three sectors can be consolidated into one facility at a slightly higher elevation where the concrete pad exists.

SD0701

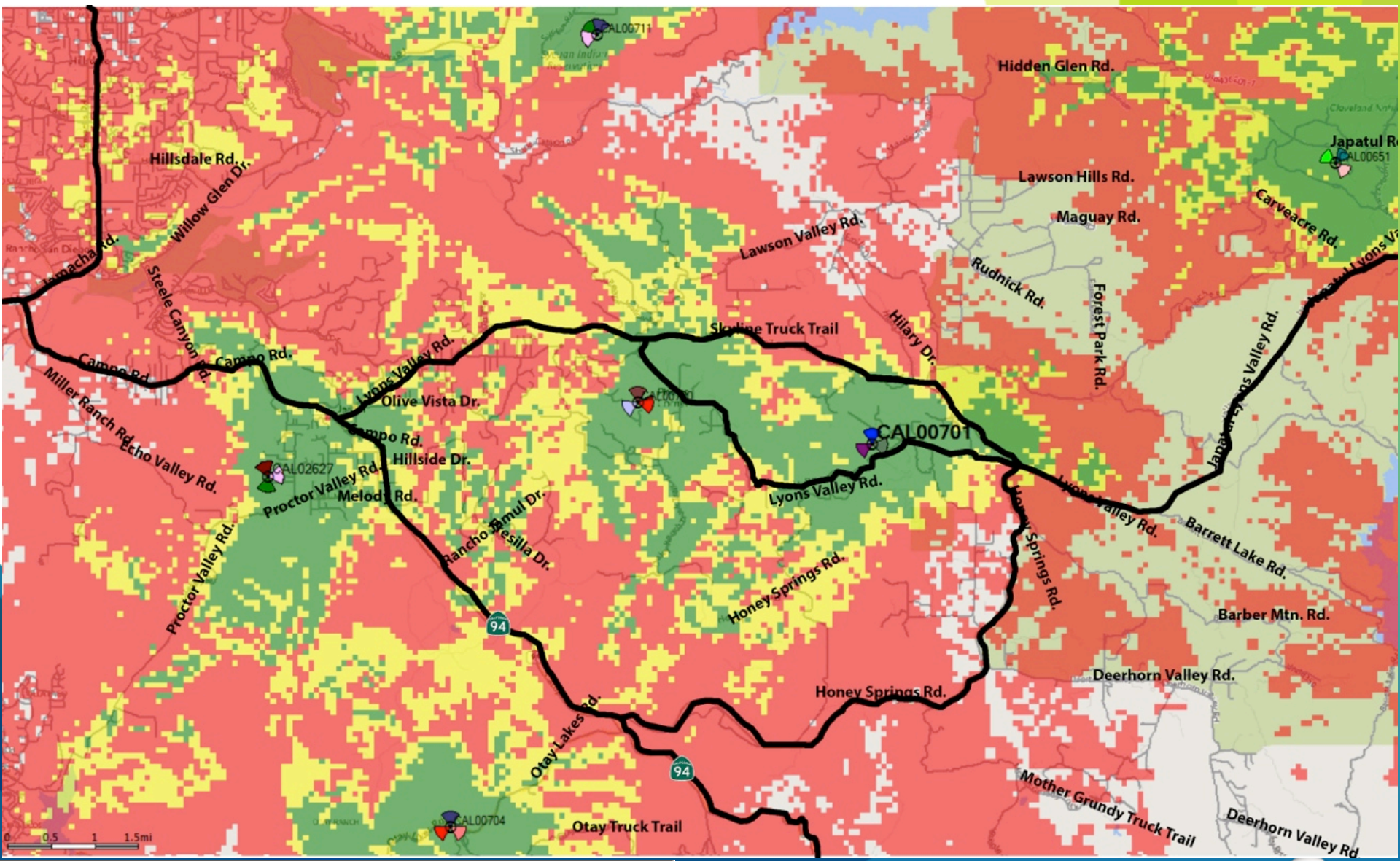
April 2018

Coverage without SD0701



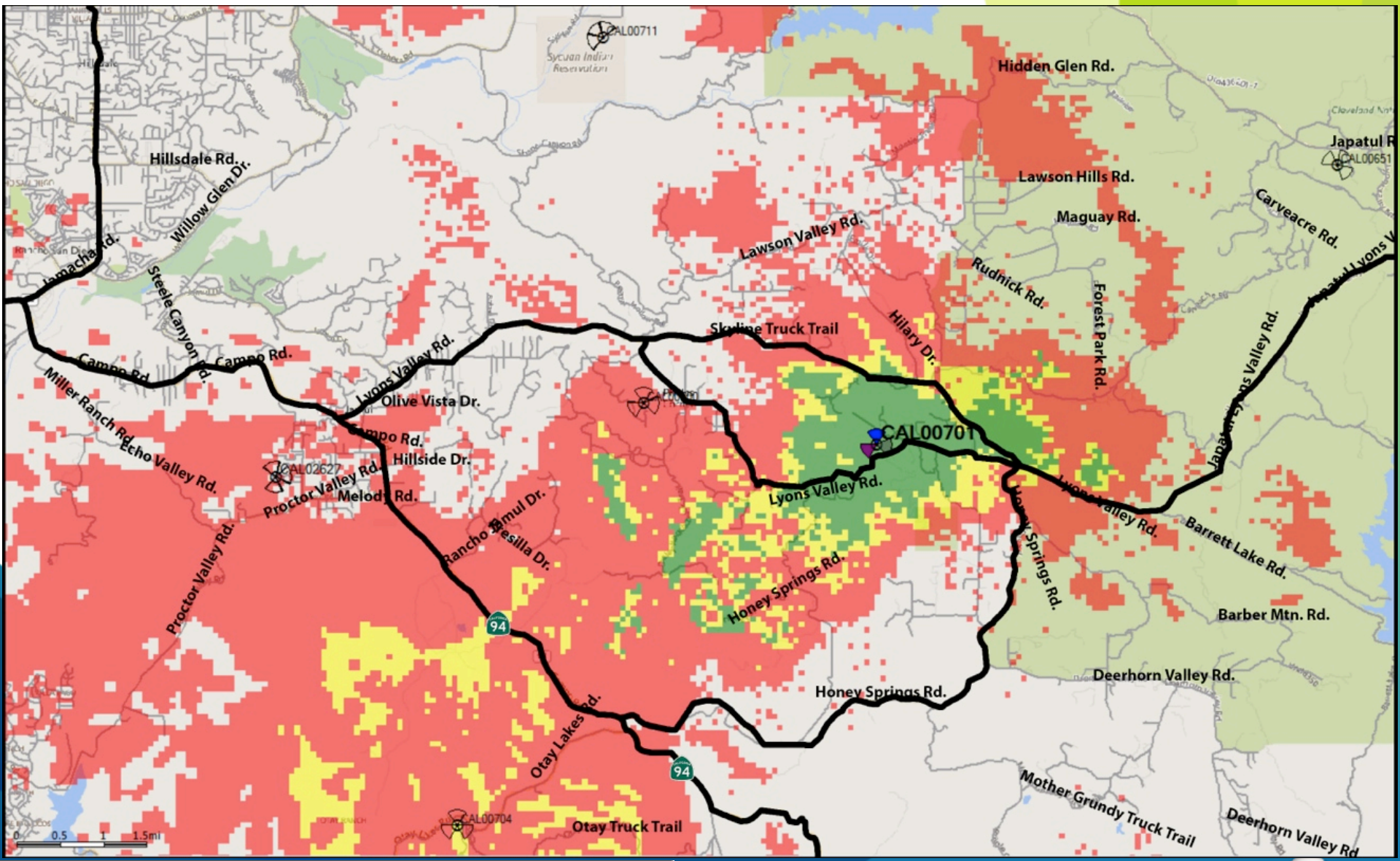
	Min	Max	Legend
			Good Coverage
			Weak Coverage
			Marginal to No Coverage

Coverage with SD0701



	Min	Max	Legend
			Good Coverage
			Weak Coverage
			Marginal to No Coverage

SD0701 Coverage Only



	Min	Max	Legend
			Good Coverage
			Weak Coverage
			Marginal to No Coverage